

## WHAT IS CLAIMED IS:

1. A vehicle communication system in which one or more basic systems of a vehicle are provided with respectively corresponding data communication networks, each said  
5 network comprising a plurality of electronic control apparatuses linked by a communication line which is dedicated to said each network, wherein

one of said electronic control apparatuses of said each network is adapted to operate as a supervisory control  
10 apparatus, said supervisory control apparatus performing supervisory control of other electronic control apparatuses of the network in which said supervisory control apparatus is connected, by transmitting information and control target values to said other electronic control apparatuses  
15 of said network, and

respective supervisory control apparatuses of said networks are connected for mutual data communication via a high-level communication line which is separate from each of said dedicated communication lines of said networks,  
20 and wherein said supervisory control apparatus of said each network receives information from said other electronic control apparatuses of its network via the dedicated communication line of that network, and further receives information via said high-level communication line,  
25 and derives said information and control target values to

be transmitted to said other electronic control apparatuses based upon said information received via said high-level communication line and upon internal processing of received information which is performed by said supervisory control  
5 apparatus itself.

2. A vehicle control apparatus according to claim 1, comprising an electronic control apparatus connected to said high-level communication line, adapted to function as  
10 a vehicle supervisory control apparatus for coordinating respective operations of said basic systems of said vehicle, wherein each of said supervisory control apparatuses of said networks transmits to said vehicle supervisory control apparatus information relating to the operating status of  
15 said network and information constituting requests for control quantities to be implemented by other ones of said networks, and wherein said vehicle supervisory control apparatus executes processing to mediate between said requests, based on said information relating to operating  
20 status, and transmits to said supervisory control apparatuses of said networks information constituting guidance objectives for control target values to be generated by said supervisory control apparatuses, said guidance objectives being derived based upon results of  
25 said mediation.

3. A vehicle control apparatus according to claim 2,  
wherein each of said supervisory control apparatuses of  
said networks is adapted to process information received  
5 from said other electronic control apparatuses of its  
network, for selecting therefrom status information which  
is to be transmitted via said high-level communication line  
to said vehicle supervisory control apparatus or to  
respective supervisory control apparatuses of other ones of  
10 said networks, and information constituting requests for  
control operations, which are to be transmitted via said  
high-level communication line to said vehicle supervisory  
control apparatus.

15 4. A vehicle control apparatus according to claim 1,  
wherein said networks comprise at least a network for  
controlling a power train system of said vehicle and a  
network for controlling a vehicle motion system of said  
vehicle.